REMARKS

Claims 116, 121-123, 125-128, 130-133, and 135-137 are pending and stand rejected. Claims 116, 121-122, 126-127, 131-132, and 136-137 are amended herein.

Claims 116, 121-123, 125-128, 130-133, and 135-137 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of van de Panne. Applicant respectfully traverses.

Claims 116 and 121-122

As amended, claim 116 recites:

In a computer-implemented animation system, a method for animating an object, the method comprising:

receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a partially-random motion path and a speed at which the object moves along the motion path, wherein the speed is specified by a drag parameter that shrinks or enlarges the motion path as a whole without changing the shape of the motion path, and wherein a length of the motion path is specified by an amount parameter wherein a higher value of the amount parameter results in the motion path being longer and the object moving faster, and wherein a shape of the motion path is determined by a random seed, a noisiness parameter that determines a level of jaggedness along the motion path, and a frequency parameter that determines a crookedness of the motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter;

animating the object by changing the value of the position parameter of the object over time according to the Random Motion behavior; and

outputting the animated object.

As described in the pending application (¶¶689-700[1]; FIGS. 53-56), the Random Motion behavior affects an object's Position parameter (¶690). If a user applies the Random Motion behavior to an object, the behavior animates the position of the object and makes the object

move around the Canvas along a partially-random path (¶690). FIG. 53 illustrates an object 12 and a Random Motion motion path 530 (¶690).

Note that the Random Motion behavior is not completely random. In one embodiment, the motion created with this behavior is actually affected by a particular group of parameters (¶691). As long as the parameters (and random seed number) don't change, the motion path created by the behavior will remain the same (¶691). In order to randomly generate a different motion path, a Generate button can be clicked to pick a new random seed number (¶691). The new random seed number is then used to generate a new motion path, in conjunction with the group of parameters (¶691).

Applying the Random Motion behavior to an object causes the object to move along a particular motion path with a particular speed. Claim 116 states that the Random Motion behavior can be configured using various parameters. Specifically, the speed at which the object moves along the motion path is specified by a drag parameter that shrinks or enlarges the motion path as a whole without changing the shape of the motion path (¶698). Also, the length of the motion path is specified by an amount parameter wherein a higher value of the amount parameter results in the motion path being longer and the object moving faster (¶695).

Claim 116 recites, in part, "receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a partially-random motion path and a speed at which the object moves along the motion path, wherein the speed is specified by a drag parameter that shrinks or enlarges the motion path as a whole without changing the shape of the motion path" (emphasis added).

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[1] Paragraph citations are to the application as published.

The hypothetical combination of Grinstein and van de Panne does not disclose, teach, or suggest this claimed element.

Grinstein mentions that a trajectory class 138 defines a path through space defined by a motion over a given portion of time (10:42-56). However, Grinstein does not disclose, teach, or suggest treating a motion path as its own entity and shrinking or enlarging the motion path as a whole.

Van de Panne does not remedy this deficiency. Van de Panne discusses drawing an arbitrary path for a figure to follow (page 83), a curved path taken by a supporting foot (page 86), and path-following control (page 100). However, van de Panne does not disclose, teach, or suggest treating a motion path as its own entity and shrinking or enlarging the motion path as a whole.

Since neither Grinstein nor van de Panne discloses, teaches, or suggests the claimed element, it follows that the hypothetical combination of Grinstein and van de Panne also does not disclose, teach, or suggest the claimed element.

Therefore, claim 116 is patentable over the hypothetical combination of Grinstein and van de Panne.

Independent claims 121-122 recite similar language and are also patentable over the hypothetical combination of Grinstein and van de Panne for at least the same reasons.

Claims 123, 128, and 133

Claim 123, which is not amended herein, recites:

In a computer-implemented animation system, a method for animating an object, the method comprising:

receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time

based on a partially-random motion path, wherein a shape of the motion path is determined by a random seed and a frequency parameter that determines a crookedness of the motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter;

animating the object by changing the value of the position parameter of the object over time according to the Random Motion behavior; and

outputting the animated object.

As described in the pending application (¶¶689-700[2]; FIGS. 53-56), the Random Motion behavior affects an object's Position parameter (¶690). If a user applies the Random Motion behavior to an object, the behavior animates the position of the object and makes the object move around the Canvas along a partially-random path (¶690). FIG. 53 illustrates an object 12 and a Random Motion motion path 530 (¶690).

Note that the Random Motion behavior is not completely random. In one embodiment, the motion created with this behavior is actually affected by a parameter (¶691). As long as the parameter (and random seed number) doesn't change, the motion path created by the behavior will remain the same (¶691). In order to randomly generate a different motion path, a Generate button can be clicked to pick a new random seed number (¶691). The new random seed number is then used to generate a new motion path, in conjunction with the parameter (¶691).

Claim 123 states that the Random Motion behavior can be configured using a parameter. Specifically, the shape of the motion path is determined by a random seed and a frequency parameter. Applying the Random Motion behavior to an object causes the object to move along a particular motion path. This motion path is largely random (e.g., based on the seed number), but its crookedness can be configured by specifying a value for the frequency parameter. A higher value of the frequency parameter results in the motion path having more turns, and a lower value of the frequency parameter results in the motion path being straighter.

Claim 123 recites, in part, "receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a partially-random motion path, wherein a shape of the motion path is determined by a random seed and a frequency parameter that determines a crookedness of the motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter" (emphasis added).

The hypothetical combination of Grinstein and van de Panne does not disclose, teach, or suggest this claimed element.

Applicant agrees with Examiner that Grinstein does not disclose, teach, or suggest the claimed element "frequency parameter" (Detailed Action, pages 5, 7). It follows that Grinstein does not disclose, teach, or suggest the claimed element "wherein a shape of the motion path is determined by a random seed and a frequency parameter that determines a crookedness of the motion path."

Van de Panne does not remedy this deficiency. Van de Panne discusses control techniques for physically-based animation (title). Specifically, a parameterized controller for periodic turning motions (such as in alpine skiing and bicycling) is presented (page 83, line 3; page 84, lines 5-6). The control scheme places three variables under the animator's control: ω_0 (turn frequency), θ_{max} (turn sharpness), and θ_h (general heading of the turns) (page 94, §5.5, lines 2-6).

Examiner argues that van de Panne's ω_0 variable (turn frequency) corresponds to the claimed element "frequency parameter" and suggests combining Grinstein with van de Panne

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[2] Paragraph citations are to the application as published.

(pages 6-7). In particular, Examiner argues that "Grinstein's animated ball could be under the (partially random) directional control given by randomDir and be oscillating back and fourth [sic] along the motion path (shown in Penne [sic] at Figure 5.9) according to an additional frequency parameter taught by Panne (implemented as a parameter in Grinstein's API)" (page 7) and "Grinstein's animated ball could be moving in the direction specified by randomDir and oscillating in a non-random way according to the frequency parameter taught by Panne (shown in Penne [sic] at Figure 5.9)" (page 11).

Applicant disagrees. The Random Motion behavior does not move an object in a random direction and then oscillate the object in a non-random way. Rather, the Random Motion behavior creates a partially-random motion path and then moves the object along that path. For example, see the motion path 530 shown in FIG. 53.

Therefore, claim 123 is patentable over the hypothetical combination of Grinstein and van de Panne.

Independent claims 128 and 133 recite similar language and are also patentable over the hypothetical combination of Grinstein and van de Panne for at least the same reasons.

The claims not specifically mentioned above depend from their respective base claims, which were shown to be patentable over the hypothetical combination of Grinstein and van de Panne. In addition, these claims recite other features not included in their respective base claims. Thus, these claims are patentable for at least the reasons discussed above, as well as for the elements that they individually recite.

Examiner is invited to contact the undersigned in order to advance the prosecution of this case.

Respectfully submitted,
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